

REMARKS

Claims 34, 42, and 52-54 have been amended, claims 36, 46, and 50 have been canceled, and claims 55 and 56 have been added.

Submitted herewith is a Supplemental Information Disclosure Statement including recently issued U.S. Patent 7,182,980.

Rejections Under 35 U.S.C. § 112

Claim 50 stands rejected as failing to comply with the written description requirement. Claim 50 has been canceled.

Claims 52-54 stand rejected as indefinite. These claims have been amended to reflect the proper dependency from claim 42. Applicants request that the rejections be withdrawn.

Rejections Under 35 U.S.C. § 102(e)

Claims 34, 35, 38 and 42-45 stand rejected under 35 U.S.C 102(e) as anticipated by Daws et al. Claims 34, 35, 38 and 42-45 stand rejected under 35 U.S.C 102(e) as anticipated by Christin et al. Applicants respectfully disagree. Claims 34 and 42 have been amended to include the limitations of dependent claims 36 and 46 and will be addressed below.

Rejections Under 35 U.S.C. § 103(a)

Claims 36, 37, and 46 stand rejected under 35 U.S.C 103(a) as obvious over Daws et al. or Christin et al. Applicants respectfully disagree. Claims 34 and 42 have been amended to include the limitations of dependent claims 36 and 46. As the Examiner apparently agrees, Daws and Christin do not teach a process capable of densifying porous structures in a single cycle. The Examiner noted that claims 34 and 42, as previously presented, did not explicitly preclude multiple steps. As amended, claims 34 and 42 require that the porous structures are densified to an average density of greater than 1.70 g/cm³ in a single cycle of pressure gradient CVI/CVD. Pressure gradient CVI/CVD densification in a single cycle has the benefits of an increase in efficiency from the elimination of numerous non-value added steps. (¶ 12).

As previously noted, neither Daws nor Christin make any mention of the final product density. Furthermore, the process of Daws requires multiple steps to reach the final product density, noting that “one advantage . . . is that *successive densification processes* may flow reactant gas in opposite directions” and that “densification of porous structures typically involves *several successive densification processes*.” (¶ 42, lines 1-9) (emphasis added). Thus, neither Daws nor Christin teaches densification to a final product density in a single cycle. For these reasons, claims 34 and 42, and the dependent claims thereof, are not obvious. Applicants request that the rejections be withdrawn.

Claims 39 and 40 stand rejected under 35 U.S.C 103(a) as obvious over Daws et al. in view of Golecki. For the same reasons described above with respect to claims 34 and 42, claims 39 and 40 are not obvious. Applicants request that the rejections be withdrawn.

Claim 41 was not addressed by the Examiner, but it is allowable for at least the reasons stated above for claim 34.


Claims 47-54 stand rejected as obvious over Daws et al. or Christin et al. Claim 50 has been canceled. For the same reasons described above with respect to claims 34 and 42, claims 47-49 and 51-54 are not obvious. Applicants request that the rejections be withdrawn.

Claims 55 and 56 have been added. Claims 55 and 56 specify that the pressure in the outer volume is between 5 and 15 torr. This is supported in the specification at paragraph [0064] lines 6-7 (“vessel pressures of 5-15 torr”). For the same reasons described above with respect to claims 34 and 42, claims 55 and 56 are not obvious.

SUMMARY

Applicants believe the present application is now in condition for allowance. If the Examiner has any remaining issues, he is invited to contact the undersigned attorney for the Applicant via telephone if such communication would expedite this application.

Respectfully submitted,



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